



Micro Commercial Components

Micro Commercial Components  
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# MC78L05F

## Three-Terminal Low Current Positive Voltage Regulator

### Features

- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

### Maximum Ratings

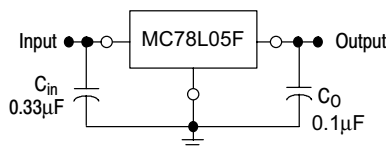
Parameter	Symbol	Value	Unit
Input Voltage (Vo=5.8V)	V <sub>I</sub>	30	V
Operating Junction Temperature	T <sub>OPR</sub>	-20---+120	°C
Storage Temperature Range	T <sub>STG</sub>	-55---+150	°C

### Electrical Characteristics (V<sub>I</sub>=10V, I<sub>o</sub>=40mA, 0°C <T<sub>j</sub><125°C, C<sub>1</sub>=0.33uF, C<sub>o</sub>=0.1uF, unless otherwise specified)

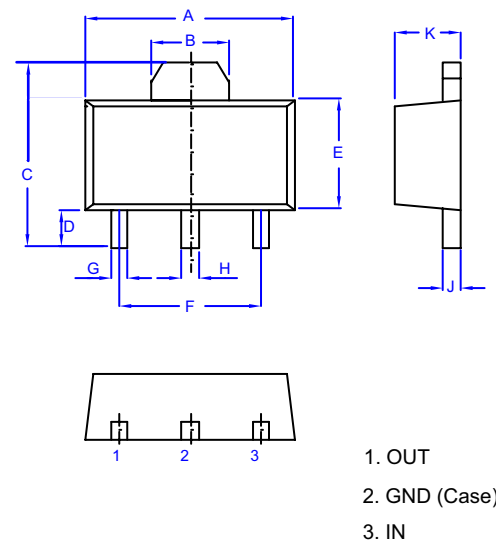
Parameter	Sym	Min	Typ	Max	Test conditions
Output Voltage	V <sub>o</sub>	4.8V	5.0V	5.2V	T <sub>j</sub> =25°C
		4.7V		5.25V	7V ≤ V <sub>I</sub> ≤ 20V, I <sub>o</sub> =1mA-40mA
		5.0V		5.25V	7V ≤ V <sub>I</sub> ≤ V <sub>MAX</sub> , I <sub>o</sub> =1mA-700mA (Note)
Load Regulation	ΔV <sub>o</sub>		11mV	60mV	I <sub>o</sub> =1mA-100mA, T <sub>j</sub> =25°C
			5.0mV	30mV	I <sub>o</sub> =1mA-40mA, T <sub>j</sub> =25°C
Line regulation	ΔV <sub>o</sub>		8mV	150mV	7V ≤ V <sub>I</sub> ≤ 20V, T <sub>j</sub> =25°C
			6mV	100mV	8V ≤ V <sub>I</sub> ≤ 20V, T <sub>j</sub> =25°C
Quiescent Current	I <sub>q</sub>		2.0mA	5.5mA	8V ≤ V <sub>I</sub> ≤ 20V
			ΔI <sub>q</sub>		
Quiescent Current Change	ΔI <sub>q</sub>			0.1mA	1mA ≤ I <sub>o</sub> ≤ 40mA
Output Noise Voltage	V <sub>N</sub>		40μV		10Hz ≤ f ≤ 100KHz
Ripple Rejection	RR	41dB	80dB		8V ≤ V <sub>I</sub> ≤ 20V, f=120Hz, T <sub>j</sub> =25°C
Dropout Voltage	V <sub>d</sub>		1.7V		T <sub>j</sub> =25°C

\*Note: Bypass Capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators

Typical Application:



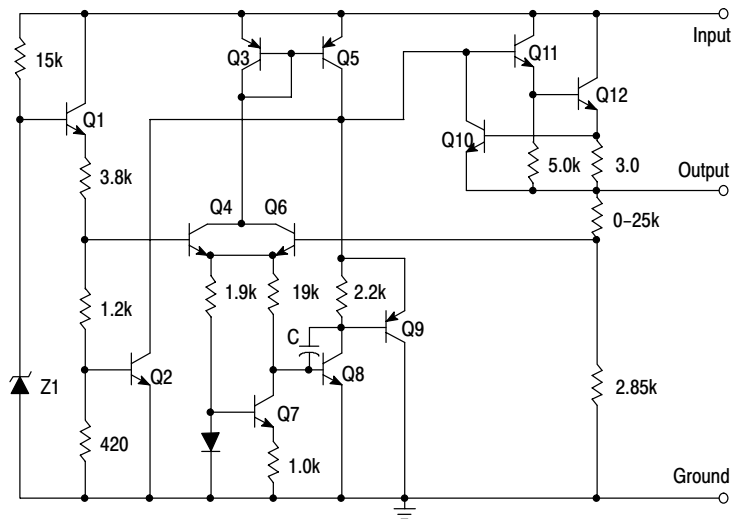
### SOT-89



DIM	DIMENSIONS				NOTES
	INCHES		MM		
A	.173	.181	4.39	4.60	
B	.061	-----	1.55	-----	REF.
C	.154	.165	3.91	4.19	
D	.031	.039	0.80	1.00	
E	.092	.100	2.34	2.54	
F	.118	-----	3.00	-----	TYP
G	.013	.019	0.33	0.48	
H	.015	.021	0.38	0.53	
J	.015	.016	0.38	0.41	
K	.055	.063	1.40	1.60	

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Figure 1. Representative Schematic Diagram





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